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## CURRICULUM VITAE

Full name: Alexandros Belavilas-Trovas  
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### Education

- [Apr 2018-Dec 2022] **PhD**, Dept. of Biochemistry & Biotechnology, University of Thessaly (Excellent)
- Thesis title «Long Non-Coding RNA involved in reproduction and immunity of *Aedes* mosquitoes and prospects for their use in pest control». Supervisor: Prof. Kostas Mathiopoulos
- [Oct 2013-Jul 2016] **MSc** in Molecular Biology & Genetics Applications-Molecular Diagnostics. Dept. of Biochemistry & Biotechnology. University of Thessaly (Excellent)
- Diploma project: «Functional analysis of genes implicated in sexual communication and pheromone perception of the olive fruit fly, *Bactrocera oleae* ». Grade: 10
- [Sep 2008-Sep 2013] **BSc** in Biochemistry & Biotechnology. School of Health Sciences, University of Thessaly (Very Good)
- Diploma project: «Cloning and analysis of genetic loci, related to the olfactory system of the olive fruit fly, *Bactrocera oleae*». Grade: 10

### Research experience

- [Sep 2022 - Oct 2022] **Visiting researcher**. Insect Biotechnology group, Justus-Liebig University Giessen, Germany
- Project: «Characterization of lncRNAs involved in reproduction of *Aedes aegypti*». Supervisor: Prof. Marc Schetelig
- [Oct 2021 - Apr 2022] **Visiting researcher/Fulbright Scholar**. Bloomberg School of Public Health, Johns Hopkins University, Baltimore, USA
- Project: «lncRNAs in reproduction-immunity trade-offs: novel control approaches to mosquito and vector-borne diseases». Supervisor: Prof. George Dimopoulos
- [May 2018- Dec 2018] **Research Assistant**. Laboratory of Molecular Biology & Genomics, University of Thessaly
- Project: «Construction of synthetic microorganisms capable of producing species-specific insecticides against the Asian Tiger mosquito». Supervisor: Prof. Kostas Mathiopoulos
- [Nov 2017-Apr 2018] **Research Assistant**. Nanomalaria joint Group, Institute for Global Health & Institute for Bioengineering of Catalonia, Barcelona, Spain
- Project: «Development of DNA aptamers against *Plasmodium falciparum*-infected Red Blood Cells and gametocytes». Supervisor: Dr. Xavier Fernández-Busquets
- [Oct 2016- Jul 2017] **Internship, Erasmus+**. Nanomalaria joint Group, Institute for Global Health & Institute for Bioengineering of Catalonia, Barcelona, Spain. Supervisor: Dr. Xavier Fernández-Busquets
- [Mar 2014- Jul 2016] **Research Assistant**. Laboratory of Molecular Biology & Genomics, University of Thessaly
- Project: «Identification and functional analysis of olfactory genes implicated in the reproductive behavior of the olive fruit fly». Supervisor: Prof. Kostas Mathiopoulos

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## Teaching experience

- [Feb 2023 - Now] **Contract lecturer.** Undergraduate Course: Special Topics in Molecular Biology. Dept. of Biochemistry & Biotechnology. University of Thessaly, Greece
- [Feb 2021 - July 2021] **Contract lecturer.** Undergraduate Course: Special Topics in Molecular Biology. Dept. of Biochemistry & Biotechnology. University of Thessaly, Greece
- [Feb 2019 - Sep 2021] Supervision of 6 undergraduate and 3 postgraduate student thesis

## Fellowships

- [Sep 2022 - Oct 2022] **Short Term Scientific Mission (STSM).** Visiting researcher. Duration: 1 month. Insect Biotechnology group, Justus-Liebig University Giessen, Germany. Funded by the European Network "Aedes Invasive Mosquito-COST"
- [Oct 2021 - Apr 2022] **Fulbright fellowship.** Visiting research student. Duration: 6 months. Dimopoulos group, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA
- [Apr 2018 - Apr 2021] **PhD fellowship from the Greek State Scholarships Foundation (IKY).** Duration: 36 months, score 91,75/100.

## Peer-reviewed Publications

- **Belavilas-Trovass, A.,** Tastsoglou, S., Dong, S., Kefi, M., Tavadia, M., Mathiopoulos, K.D., Dimopoulos, G. (2023). Long non-coding RNAs (lncRNAs) regulate Zika virus vector competence and reproduction in *Aedes aegypti*. *PLoS Pathogens* (in press)
- **Belavilas-Trovass, A.,** Gregoriou, M. E., Tastsoglou, S., Soukia, O., Giakountis, A., & Mathiopoulos, K.D. (2022). A species-specific lncRNA modulates the reproductive ability of the asian tiger mosquito. *Frontiers in bioengineering and biotechnology*, 10, 885767.
- Tsoumani, K. T., **Belavilas-Trovass, A.,** Gregoriou, M. E., & Mathiopoulos, K. D. (2020). Anosmic flies: what Orco silencing does to olive fruit flies. *BMC genetics*, 21(2), 1-10.
- Lantero E, **Belavilas-Trovass A,** Biosca A, Reclons P, Moles E, ... & Fernàndez-Busquets X (2020). Development of DNA Aptamers Against *Plasmodium falciparum* Blood Stages Using Cell-Systematic Evolution of Ligands by EXponential Enrichment. *Journal of Biomedical Nanotechnology*, 16(3), 315-334.

## Patents

- Title: Aptamers for detecting *Plasmodium*-infected red blood cells.  
Inventors: Fernandez-Busquets X, Lantero E, **Belavilas-Trovass A.**, Institutions: IBEC, ISGlobal  
WO 2021/180906, PCT/EP2021/056291. Publication date: 16 September 2021.

## Conference presentations

Participation in 14 International/European conferences with posters or oral presentations.

### PRESENTATIONS IN INTERNATIONAL/EUROPEAN CONFERENCE PROCEEDINGS

1. **Belavilas-Trovass A.** Disruption of the reproductive capacity of *Aedes* mosquitoes by targeting lncRNAs. *Final Aedes Invasive Mosquitoes (AIM-COST) conference, Rome, Italy (2023).*
2. **Belavilas-Trovass A,** Tastsoglou S, Gregoriou M.E., Dong S, Dimopoulos G, Mathiopoulos K.D. Functional non-coding dark matter: lncRNAs regulate reproduction and immunity in *Aedes* spp. *2022 Mosquito Kolybari meeting, Crete, Greece (2022).*
3. **Belavilas-Trovass A,** Gregoriou M.E., Tastsoglou S, Soukia O, Giakountis A, Mathiopoulos K.D. A long non-coding RNA modulates tiger mosquito reproductive ability and points to species-specific insecticide applications. *26<sup>th</sup> International congress of Entomology, Helsinki, Finland (2022).*
4. **Belavilas-Trovass A,** Gregoriou M.E., Soukia O, Mathiopoulos K.D. Non-Coding RNAs as a novel tool for species-specific management of *Aedes albopictus*. *3<sup>rd</sup> Aedes Invasive Mosquitoes (AIM-COST) annual conference, Istanbul, Turkey (2021).*

5. **Belavilas-Trovass A**, Papamargaritis M, Mathiopoulos KD. Genetic analysis of Greek *Aedes albopictus* populations based on the mitochondrial marker COI. 2<sup>nd</sup> *Aedes Invasive Mosquitoes (AIM-COST) annual conference, Lisbon, Portugal (2020)*.
6. **Belavilas-Trovass A**, Giakountis A, Mathiopoulos KD. Triggered to death. dsRNA insecticides against the Asian Tiger mosquito, *Aedes albopictus*. 8<sup>th</sup> *International Symposium on Molecular Insect Science, Barcelona, Spain (2019)*.
7. Lantero E, **Belavilas A**, Biosca A, Moles E, Ramirez M, Fernàndez -Busquets X. Identification of DNA aptamers against plasmodium falciparum. *BioMalPar XV: Biology and Pathology of the Malaria Parasite, EMBL, Heidelberg, Germany (2019)*.
8. Lantero E, **Belavilas A**, Biosca A, Moles E, Ramirez M, Fernàndez -Busquets X. Identification of DNA aptamers against plasmodium falciparum. 5<sup>th</sup> *Annual Meeting of the International Society on Aptamers, Oxford, UK (2019)*.
9. Tsoumani KT, **Belavilas-Trovass A**, Anastasiou E-M, Mathiopoulos KD. Exploring the chemoreceptor repertoire and the Orco-RNAi induced behavioral phenotypes in the olive fruit fly, *Bactrocera oleae* (Diptera: Tephritidae). XI *European Congress of Entomology, Naples, Italy (2018)*.
10. Biosca A, Lantero E, Marti E, Moles E, **Belavilas A**, Gutierrez L, Carol L, Borgheti L, Ramirez M, Fernàndez -Busquets X. Biotechnology for new targeted delivery strategies against malaria. 42<sup>nd</sup> *FEBS Congress, From molecules to cells and back, Jerusalem, Israel (2017)*.
11. Lantero E, Moles E, **Belavilas A**, Ramirez M, Prieto B, Imperial S, Fernàndez -Busquets X. Developing Aptamers against Plasmodium falciparum: Different Approaches to Overcome the Challenge. *BioMalPar XIII: Biology and Pathology of the Malaria Parasite, EMBL, Heidelberg, Germany (2017)*.
12. Lantero E, Moles E, **Belavilas A**, Ramirez M, Prieto B, Imperial S, Fernàndez -Busquets X. The Challenge of Using the Intraerythrocytic Parasite Plasmodium falciparum as Aptamer-Selecting Target. 4<sup>th</sup> *Annual Meeting of the International Society on Aptamers, Oxford, UK (2017)*.
13. Roca C, Llinas L, Curas S, Lantero E, **Belavilas A**, Prieto-Simon A, Serra A, Saura A, Fernàndez -Busquets X, Imperial S. DNA Aptamers as potential antimalarial drugs. Isolation of DNA aptamers against the enzyme DXP reductoisomerase from *Plasmodium falciparum*. *Aptamers in Bordeaux meeting, Bordeaux, France (2017)*.
14. Tsoumani KT, **Belavilas-Trovass A**, Mathiopoulos K. From genome to behavior: investigating the molecular basis of olfaction as target to interrupt the sexual communication for population control of the olive fruit fly, *Bactrocera oleae*. 7<sup>th</sup> *meeting of the IOBC/wprs WG "Integrated Protection of Olive Crops", Kalamata, Greece (2015)*.

## Workshops

- [Jul 2019] Secure Insectary Experimental Methods Course, The Pirbright Institute (UK)  
*Theoretical and practical course, in the framework of the Infravec H2020 network.*
- [Jul 2019] The Onassis Foundation lectures in Biology and Chemistry (Crete, Greece).  
*Subject: Genome Editing. Keynote speakers incl. J. Doudna (2020 Nobel laureate)*

## Languages

- Greek: Native
- English: Excellent (FCE in English, University of Cambridge)
- Spanish: Very Good (DELE B2, Instituto Cervantes)